that are capable of attracting and retaining and subsequently releasing the magnetic particles by the spin valve magnetic traps.

24. The method of claim **18**, wherein the plurality of spin valve magnetic traps each comprise a multilayered spin-valve structure having the following sequence of layers: a layer of tantalum, a layer of nickel-iron alloy, a layer of cobalt, a layer of copper, a layer of cobalt, a layer of nickel-iron alloy, a layer of IrMn and a layer of tantalum, wherein the layers of the nickel-iron alloy can selectively have either parallel or anti-parallel magnetic moments when subjected to the magnetic field to produce in total the local magnetic fields near the individual spin valve magnetic traps that are capable of attracting and retaining and subsequently releasing the magnetic particles by the spin valve magnetic traps.

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